

I Claim:

1. A method for transmitting data of a plurality of data types between a digital processor and a hardware arithmetic-logic unit, the method which comprises:

associating the hardware arithmetic-logic unit with at least one table memory, the hardware arithmetic-logic unit obtaining data required during a computing operation from the table memory and/or the hardware arithmetic-logic unit storing data computed during a computing operation in the table memory; and

reading and/or writing from the digital processor to the table memory by:

preselecting a base address in the table memory dependent on a data type of data to be transmitted, and

accessing the table memory with the digital processor by taking the preselected base address as a starting point for computing, according to a prescribed arithmetic computation rule in hardware, a plurality of addresses used for consecutive read access operations and/or consecutive write access operations in the table memory.

2. The method according to claim 1, which further comprises:

storing a plurality of base addresses associated with a plurality of different data types in a base address register, the base address that was preselected being one of the plurality of base addresses; and

performing the step of preselecting the base address by using the processor to set a selection bit associated with the base address.

3. The method according to claim 2, which further comprises:

prescribing the plurality of base addresses unalterably in hardware.

4. The method according to claim 1, which further comprises:

providing the arithmetic computation rule for computing the plurality of addresses in the table memory as an incrementation rule or a decrementation rule.

5. The method according to claim 1, which further comprises:

programming the base address with the digital processor.

6. The method according to claim 1, which further comprises:

with the digital processor, programming at least one information item selected from a group consisting of information relating to a number of data items being written to or read from a plurality of memory subareas associated with the base address, information about a block size of data blocks, information about a decoding rate, and information about utilized convolution polynomials.

7. The method according to claim 1, which further comprises:

providing a first data type of the plurality of data types as soft input values for channel decoding that are intended for a decoder hardware arithmetic-logic unit; and

with the digital processor, programming how many soft input values per unit time can be stored in a memory subarea associated with the first data type.

8. The method according to claim 1, which further comprises:

providing a second data type as trace back values computed by a decoder hardware arithmetic-logic unit; and

with the digital processor, programming how many states the trace back values need to include.

9. The method according to claim 1, which further comprises:

choosing a packing mode causing a plurality of data words, output by the processor for performing the step of accessing the table memory, to be combined to form a memory data word for the table memory.

10. The method according to claim 1, which further comprises:

choosing an unpacking mode causing a memory data word, read from the table memory when performing the step of accessing the table memory, to be broken down into a plurality of data words before being input into the processor.

11. A circuit configuration for transmitting data of a plurality of data types between a processor and a hardware arithmetic-logic unit, comprising:

said processor and said hardware arithmetic-logic unit;

at least one table memory associated with the hardware and arithmetic logic unit, said table memory for providing data to the hardware and arithmetic logic unit required for a computing operation of the hardware and arithmetic logic unit, said table memory for storing data computed in a computing operation of the hardware and arithmetic logic unit;

an input and/or output memory having a prescribed address used by said processor to access said input and/or output memory for data input/output;

a base address memory device for storing, for each data type, a base address for said table memory; and

a hardware address computation circuit for, taking the base address as a starting point, applying an arithmetic computation rule to produce a plurality of addresses enabling the digital processor to consecutively access said table memory.

12. The circuit configuration according to claim 11, wherein:

said base address memory device is an external base address register designed such that in order to select the base address, said processor sets a selection bit associated with the base address.

13. The circuit configuration according to claim 11, wherein said base address memory device is a read only memory.

14. The circuit configuration according to claim 11, wherein said base address memory device is a rewritable memory that can be programmed by the digital processor.

15. The circuit configuration according to claim 11, further comprising:

a configuration memory;

said table memory including memory subareas; and

said configuration memory for storing information selected from a group consisting of information relating to a number of data items being written to or read from a plurality of said memory subareas associated with the base address, information about a block size of data blocks, information about a decoding rate, and information about utilized convolution polynomials.

16. The circuit configuration according to claim 11, further comprising:

a multiplexer and buffer device for assembling a plurality of data words output by said processor to form a memory data word intended for being stored at an address in said table memory.

17. The circuit configuration according to claim 11, further comprising:

a demultiplexer and buffer device for, before being input into said processor, breaking down a memory data word read from said table memory into a plurality of data words.

18. The circuit configuration according to claim 11, wherein said table memory has a prescribed memory word length.

19. The circuit configuration according to claim 11, wherein:

said hardware arithmetic-logic unit is a Viterbi hardware arithmetic-logic unit.

20. The circuit configuration according to claim 11, wherein:

said hardware arithmetic-logic unit includes an equalizer hardware arithmetic-logic unit and a decoder hardware arithmetic-logic unit;

said processor includes a data transmission connection to said equalizer hardware arithmetic-logic unit; and

said processor includes a data transmission connection to said decoder hardware arithmetic-logic unit.